

EDITORIAL NOTE: There are 63 job-associated modules. We have included the modules for a chemical industry worker and for a gardener as representative examples. The others are available from Dr. Dosemeci.

BOX GA-1

S. WAS EVER A GARDENER OR GROUNDSKEEPER 1 (GA-1)
 S. WAS NEVER A GARDENER OR GROUNDSKEEPER 2 (GO TO NEXT MODULE)

GA-1. I'm first going to ask you how often you did specific tasks at [NAME OF COMPANY IN C3]. If you did not do any task I name, just say zero or never.

a. On average, how often did you apply fertilizers?

NEVER 00000
 DID, DK HOW OFTEN 99996 (GO TO GA-1b)
 DK 99998 @

1. _____ per DAY 1
 # TIMES WEEK 2 (GO TO 5)
 MONTH 3
 YEAR 4 **A**

2. _____ HOURS 1 DAY 1
 DAYS 2 WEEK 2
 WEEKS 3 MONTH 3
 MONTHS 4 YEAR 4

BOX GA-2

IF NUMERATOR IN 2 = 1 (HOURS), THEN GO TO BOX GA-4.
 IF NUMERATOR IN 2 = 2-4 (DAYS, WEEKS, MONTHS), GO TO 5.

3. _____ (GO TO GA-1b)
 PERCENT

4. _____ / _____ (GO TO GA-1b)
 FRACTION

5. Each time you applied fertilizers, how long, on average, did it take?

_____ MINUTES 1
 HOURS 2
 DK 8

BOX GA-3

IF DENOMINATOR IN 1 = 1-3 (DAY, WEEK, MONTH), GO TO 6.
 IF DENOMINATOR IN 1 = 4 (YEAR), GO TO GA-1b.

BOX GA-4

IF DENOMINATOR IN 2 = 4 (YEAR), GO TO GA-1b.

6. Did you do this year round?

YES 1 (GO TO GA-1b)
NO 2
DK 8 (GO TO GA-1b)

7. How many (DAYS/WEEKS/MONTHS) a year did you do this?

DAYS/WEEKS/MONTHS | | | |
DK 998

b. (IF END DATE > 1950) On average, how often did you apply insecticides or bug killers?

NEVER 00000
DID, DK HOW OFTEN 99996 (GO TO GA-1c)
DK 99998 @

1. _____
 # TIMES per DAY 1
 WEEK 2 (GO TO 5)
 MONTH 3
 YEAR 4 **A**

2. _____ HOURS 1 DAY 1
 DAYS 2 per WEEK 2
 WEEKS 3 MONTH 3
 MONTHS 4 YEAR 4

BOX GA-5

IF NUMERATOR IN 2 = 1 (HOURS), THEN GO TO BOX GA-7.
IF NUMERATOR IN 2 = 2-4 (DAYS, WEEKS, MONTHS), GO TO 5.

3. _____ (GO TO GA-1c)
 PERCENT

4. _____ / _____ (GO TO GA-1c)
 FRACTION

5. Each time you applied insecticides, what was the total time it took?

_____ MINUTES 1
 HOURS 2
 DK 8

BOX GA-6

IF DENOMINATOR IN 1 = 1-3 (DAY, WEEK, MONTH), GO TO 6.
IF DENOMINATOR IN 1 = 4 (YEAR), GO TO GA-1c.

BOX GA-7

IF DENOMINATOR IN 2 = 4 (YEAR), GO TO GA-1c.

6. Did you do this year round?

YES 1 (GO TO GA-1c)
NO 2
DK 8 (GO TO GA-1c)

7. How many (DAYS/WEEKS/MONTHS) a year did you do this?

DAYS/WEEKS/MONTHS | | | |
DK 998

c. (IF END DATE > 1950) On average, how often did you apply herbicides or weed killers?

NEVER 00000
DID, DK HOW OFTEN 99996 (GO TO GA-1d)
DK 99998 @

1. _____ DAY 1
 # TIMES per WEEK 2 (GO TO 5)
 MONTH 3 **A**
 YEAR 4

2. _____ HOURS 1 DAY 1
 DAYS 2 per WEEK 2
 WEEKS 3 MONTH 3
 MONTHS 4 YEAR 4

BOX GA-8

IF NUMERATOR IN 2 = 1 (HOURS), THEN GO TO BOX GA-10.
IF NUMERATOR IN 2 = 2-4 (DAYS, WEEKS, MONTHS), GO TO 5.

3. _____ (GO TO GA-1d)
 PERCENT

4. _____ / _____ (GO TO GA-1d)
 FRACTION

5. Each time you applied herbicides, what was the total time it took?

_____ MINUTES 1
HOURS 2
DK 8

BOX GA-9

IF DENOMINATOR IN 1 = 1-3 (DAY, WEEK, MONTH), GO TO 6.
IF DENOMINATOR IN 1 = 4 (YEAR), GO TO GA-1d.

BOX GA-10

IF DENOMINATOR IN 2 = 4 (YEAR), GO TO GA-1d.

6. Did you do this year round?

YES 1 (GO TO GA-1d)
 NO 2
 DK 8 (GO TO GA-1d)

7. How many (DAYS/WEEKS/MONTHS) a year did you do this?

DAYS/WEEKS/MONTHS | | | |
 DK 998

d. (IF END DATE > 1950) On average, how often did you apply fungicides?

NEVER 00000
 DID, DK HOW OFTEN 99996 (GO TO GA-1e)
 DK 99998 @

1. _____ per DAY 1
 # TIMES per WEEK 2 (GO TO 5)
 MONTH 3
 YEAR 4 **A**

2. _____ HOURS 1 DAY 1
 DAYS 2 per WEEK 2
 WEEKS 3 MONTH 3
 MONTHS 4 YEAR 4

BOX GA-11

IF NUMERATOR IN 2 = 1 (HOURS), THEN GO TO BOX GA-13.
 IF NUMERATOR IN 2 = 2-4 (DAYS, WEEKS, MONTHS), GO TO 5.

3. _____ (GO TO GA-1e)
 PERCENT

4. _____ / _____ (GO TO GA-1e)
 FRACTION

5. Each time you applied fungicides, how long, on average, did it take?

_____ MINUTES 1
 HOURS 2
 DK 8

BOX GA-12

IF DENOMINATOR IN 1 = 1-3 (DAY, WEEK, MONTH), GO TO 6.
 IF DENOMINATOR IN 1 = 4 (YEAR), GO TO GA-1e.

BOX GA-13

IF DENOMINATOR IN 2 = 4 (YEAR), GO TO GA-1e.

6. Did you do this year round?

YES 1 (GO TO GA-1e)
 NO 2
 DK 8 (GO TO GA-1e)

7. How many (DAYS/WEEKS/MONTHS) a year did you do this?

DAYS/WEEKS/MONTHS | | | |
 DK 998

e. On average, how often did you mow grass or fields?

NEVER 00000
 DID, DK HOW OFTEN 99996 (GO TO GA-1f)
 DK 99998 @

1. _____ # TIMES per DAY 1
 WEEK 2 (GO TO 5)
 MONTH 3 A
 YEAR 4

2. _____ HOURS 1 DAY 1
 DAYS 2 per WEEK 2
 WEEKS 3 MONTH 3
 MONTHS 4 YEAR 4

BOX GA-14

IF NUMERATOR IN 2 = 1 (HOURS), THEN GO TO BOX GA-16.
 IF NUMERATOR IN 2 = 2-4 (DAYS, WEEKS, MONTHS), GO TO 5.

3. _____ (GO TO GA-1f)
 PERCENT

4. _____ / _____ (GO TO GA-1f)
 FRACTION

5. Each time you mowed grass or fields, how long, on average, did it take?

_____ MINUTES 1
 HOURS 2
 DK 8

BOX GA-15

IF DENOMINATOR IN 1 = 1-3 (DAY, WEEK, MONTH), GO TO 6.
IF DENOMINATOR IN 1 = 4 (YEAR), GO TO GA-1f.

BOX GA-16

IF DENOMINATOR IN 2 = 4 (YEAR), GO TO GA-1f.

6. Did you do this year round?

YES 1 (GO TO GA-1f)
NO 2
DK 8 (GO TO GA-1f)

7. How many (DAYS/WEEKS/MONTHS) a year did you do this?

DAYS/WEEKS/MONTHS
DK 998

f. On average, how often did you repair or maintain power mowers?

NEVER 00000
DID, DK HOW OFTEN 99996 (GO TO GA-1g)
DK 99998 @

1. per DAY 1
TIMES per WEEK 2 (GO TO 5)
MONTH 3 **A**
YEAR 4

2. HOURS 1 DAY 1
DAYS 2 per WEEK 2
WEEKS 3 MONTH 3
MONTHS 4 YEAR 4

BOX GA-17

IF NUMERATOR IN 2 = 1 (HOURS), THEN GO TO BOX GA-19.
IF NUMERATOR IN 2 = 2-4 (DAYS, WEEKS, MONTHS), GO TO 5.

3. (GO TO GA-1g)
PERCENT

4. / (GO TO GA-1g)
FRACTION

5. Each time you repaired or maintained power mowers, how long, on average, did it take?

 MINUTES 1
HOURS 2
DK 8

BOX GA-18

IF DENOMINATOR IN 1 = 1-3 (DAY, WEEK, MONTH), GO TO 6.
IF DENOMINATOR IN 1 = 4 (YEAR), GO TO GA-1g.

BOX GA-19

IF DENOMINATOR IN 2 = 4 (YEAR), GO TO GA-1g.

6. Did you do this year round?

YES 1 (GO TO GA-1g)
NO 2
DK 8 (GO TO GA-1g)

7. How many (DAYS/WEEKS/MONTHS) a year did you do this?

DAYS/WEEKS/MONTHS | | | |
DK 998

g. On average, how often did you burn leaves or debris?

NEVER 00000
DID, DK HOW OFTEN 99996 (GO TO GA-1h)
DK 99998 @

1. per DAY 1
TIMES per WEEK 2 (GO TO 5)
MONTH 3 A
YEAR 4

2. HOURS 1 DAY 1
DAYS 2 per WEEK 2
WEEKS 3 MONTH 3
MONTHS 4 YEAR 4

BOX GA-20

IF NUMERATOR IN 2 = 1 (HOURS), THEN GO TO BOX GA-22.
IF NUMERATOR IN 2 = 2-4 (DAYS, WEEKS, MONTHS), GO TO 5.

3. (GO TO GA-1h)
PERCENT

4. / (GO TO GA-1h)
FRACTION

5. Each time you burned leaves or debris, how long, on average, did it take?

 MINUTES 1
HOURS 2

DK 8

BOX GA-21

IF DENOMINATOR IN 1 = 1-3 (DAY, WEEK, MONTH), GO TO 6.
IF DENOMINATOR IN 1 = 4 (YEAR), GO TO GA-1h.

BOX GA-22

IF DENOMINATOR IN 2 = 4 (YEAR), GO TO GA-1h.

6. Did you do this year round?

YES 1 (GO TO GA-1h)
NO 2
DK 8 (GO TO GA-1h)

7. How many (DAYS/WEEKS/MONTHS) a year did you do this?

DAYS/WEEKS/MONTHS | | | |

DK 998

h. On average, how often did you paint?

NEVER 00000
DID, DK HOW OFTEN 99996 (GO TO BOX GA-26)
DK 99998 @

1. DAY 1
 # TIMES per WEEK 2 (GO TO 5)
 MONTH 3 **A**
 YEAR 4

2. HOURS 1 DAY 1
 DAYS 2 per WEEK 2
 WEEKS 3 MONTH 3
 MONTHS 4 YEAR 4

BOX GA-23

IF NUMERATOR IN 2 = 1 (HOURS), THEN GO TO BOX GA-25.
IF NUMERATOR IN 2 = 2-4 (DAYS, WEEKS, MONTHS), GO TO 5.

3. (GO TO BOX GA-26)
 PERCENT

4. / (GO TO BOX GA-26)
 FRACTION

5. Each time you painted, how long, on average, did it take?

_____ MINUTES 1
 HOURS 2
 DK 8

BOX GA-24 IF DENOMINATOR IN 1 = 1-3 (DAY, WEEK, MONTH), GO TO 6. IF DENOMINATOR IN 1 = 4 (YEAR), GO TO BOX GA-26.

BOX GA-25 IF DENOMINATOR IN 2 = 4 (YEAR), GO TO BOX GA-26.

6. Did you do this year round?

YES 1 (GO TO BOX GA-26)
 NO 2
 DK 8 (GO TO BOX GA-26)

7. How many (DAYS/WEEKS/MONTHS) a year did you do this?

DAYS/WEEKS/MONTHS |__|__|__|
 DK 998

BOX GA-26 IF GA-1a-h < 80% of C13 (HRS/WK), ASK GA-2. ELSE, GO TO BOX GA-27.

GA-2. What else did you do?

 _____ DK

BOX GA-27 IF GA-1a > 5 HOURS PER YEAR, ASK GA-3. OTHERWISE, SKIP TO BOX GA-28.

GA-3. You said you applied fertilizers. How did you usually apply these fertilizers?

	<u>YES</u>	<u>NO</u>	<u>DK</u>
a. A hand-held spreader?	1	2	8
b. A spreader on wheels that you pushed?	1	2	8
c. A spreader on a truck?	1	2	8

d. Some other way? (SPECIFY) 1 2 8

BOX GA-28

IF GA-1b > 5 HOURS PER YEAR, GO TO BOX GA-29. OTHERWISE, SKIP TO BOX GA-30.

BOX GA-29

IF END DATE - START DATE > 5 YEARS, ASK GA-4 AND GA-5. OTHERWISE, JUST ASK GA-4.

GA-4. You said you applied insecticides or bug killers. What insecticides or bug killers did you apply?	GA-5. What years did you apply (INSECTICIDE)?
a. _____ DK	FROM 19 __ __ TO 19 __ __ YEAR YEAR DK 98 DK 98
b. _____ DK	FROM 19 __ __ TO 19 __ __ YEAR YEAR DK 98 DK 98
c. _____ DK	FROM 19 __ __ TO 19 __ __ YEAR YEAR DK 98 DK 98

GA-6. How did you usually apply these bug killers or insecticides?

	<u>YES</u>	<u>NO</u>	<u>DK</u>
a. A backpack sprayer?	1	2	8
b. A hand-held spray can?	1	2	8
c. Sprinkling granules on the ground?	1	2	8
d. Some other way? (SPECIFY)	1	2	8

BOX GA-30

IF GA-1c > 5 HOURS PER YEAR, GO TO BOX GA-31. OTHERWISE, SKIP TO BOX GA-32.

BOX GA-31

IF END DATE - START DATE > 5 YEARS, ASK GA-7 AND GA-8. OTHERWISE, JUST ASK GA-7.

GA-7. You said you applied herbicides or weed killers. What herbicide or weed killers did you apply?	GA-8. What years did you apply (HERBICIDE)?
a. _____ DK	FROM 19 __ __ __ TO 19 __ __ __ YEAR YEAR DK 98 DK 98
b. _____ DK	FROM 19 __ __ __ TO 19 __ __ __ YEAR YEAR DK 98 DK 98
c. _____ DK	FROM 19 __ __ __ TO 19 __ __ __ YEAR YEAR DK 98 DK 98

GA-9. How did you usually apply these herbicides or weed killers?

	<u>YES</u>	<u>NO</u>	<u>DK</u>
a. A backpack sprayer?	1	2	8
b. A hand-held spray can?	1	2	8
c. Sprinkling granules on the ground?	1	2	8
d. Some other way? (SPECIFY)	1	2	8

BOX GA-32
IF GA-1d > 5 HOURS PER YEAR, GO TO BOX GA-33. OTHERWISE, SKIP TO BOX GA-34.

BOX GA-33
IF END DATE - START DATE > 5 YEARS, ASK GA-10 AND GA-11. OTHERWISE, JUST ASK GA-10.

GA-10. You said you applied fungicides. What fungicides did you use?	GA-11. What years did you apply (FUNGICIDE)?
a. _____ DK	FROM 19 __ __ __ TO 19 __ __ __ YEAR YEAR DK 98 DK 98
b. _____ DK	FROM 19 __ __ __ TO 19 __ __ __ YEAR YEAR DK 98 DK 98
c. _____ DK	FROM 19 __ __ __ TO 19 __ __ __ YEAR YEAR DK 98 DK 98

GA-12. How did you usually apply these fungicides?

	<u>YES</u>	<u>NO</u>	<u>DK</u>
a. A backpack sprayer?	1	2	8
b. A hand-held spray can?	1	2	8
c. Sprinkling granules on the ground?	1	2	8
d. Some other way? (SPECIFY)	1	2	8

BOX GA-34
IF GA-1b (BUG KILLERS) + c (WEED KILLERS) + d (FUNGICIDES) > 5 HOURS PER YEAR, ASK GA-13. OTHERWISE, SKIP TO BOX GA-35.

GA-13. When mixing or applying bug or weed killers or fungicides, did you usually wear any protective clothing?

YES	1
NO	2 (BOX GA-35)
DK	8 (BOX GA-35)

GA-14. What protective clothing or equipment did you wear? (SHOW CARD)

	<u>YES</u>	<u>NO</u>	<u>DK</u>
a. CHEMICAL CARTRIDGE RESPIRATOR	1	2	8
b. AN AIR-SUPPLIED OR SCUBA RESPIRATOR	1	2	8
c. SIMPLE DUST MASK	1	2	8
d. GLOVES	1	2	8
e. APRON OR SPECIAL CLOTHING	1	2	8
f. OTHER TYPE OF RESPIRATOR	1	2	8

GA-15. After you handled the bug or weed killers or fungicides, how many days did you usually wear the same work clothes before washing the clothes?

_____ # DAYS
 DK 988

BOX GA-35 IF GA-1e OR GA-1f > 1 HOUR PER WEEK, GO TO BOX GA-36. OTHERWISE, END MODULE.

BOX GA-36 IF END YEAR (C6) < 1950, SKIP TO GA-17a.

GA-16.

a. Did you use diesel powered lawn mowers, tractors, or other equipment?

YES 1
 NO 2 (GA-17a)
 DK 8 (GA-17a)

b. On average, how often did you run one of these?

NEVER 00000
 DID, DK HOW OFTEN 99996 (GO TO GA-16c)
 DK 99998 @

1. _____ per DAY 1
 # TIMES WEEK 2 (GO TO 5)
 MONTH 3 A
 YEAR 4

2. _____ HOURS 1 DAY 1
 DAYS 2 WEEK 2
 WEEKS 3 MONTH 3
 MONTHS 4 YEAR 4

BOX GA-37

IF NUMERATOR IN 2 = 1 (HOURS), THEN GO TO BOX GA-39.
 IF NUMERATOR IN 2 = 2-4 (DAYS, WEEKS, MONTHS), GO TO 5.

3. _____ (GO TO GA-16c)
 PERCENT

4. _____ / _____ (GO TO GA-16c)
 FRACTION

5. Each time you did this, how long, on average, did it take?

_____ MINUTES 1
 HOURS 2
 DK 8

BOX GA-38

IF DENOMINATOR IN 1 = 1-3 (DAY, WEEK, MONTH), GO TO 6.
 IF DENOMINATOR IN 1 = 4 (YEAR), GO TO GA-16c.

BOX GA-39

IF DENOMINATOR IN 2 = 4 (YEAR), GO TO GA-16c.

6. Did you do this year round?

YES 1 (GO TO GA-16c)
 NO 2
 DK 8 (GO TO GA-16c)

7. How many (DAYS/WEEKS/MONTHS) a year did you do this?

DAYS/WEEKS/MONTHS |__|__|__|
 DK 998

- c. How often did you personally fill the equipment's fuel tank with diesel fuel?

NEVER 00000
 DID, DK HOW OFTEN 99996 (GO TO GA-17a)
 DK 99998 @

1. _____ per DAY 1
 # TIMES WEEK 2
 MONTH 3
 YEAR 4

BOX GA-40

IF 1 = YEAR, THEN GO TO GA-17a.

2. Did you do this year round?

YES 1 (GO TO GA-17a)
 NO 2
 DK 8 (GO TO GA-17a)

3. How many (DAYS/WEEKS/MONTHS) a year did you do this?

DAYS/WEEKS/MONTHS | | | |
 DK 998

GA-17.

a. Did you use gasoline-powered lawn mowers, tractors, or other equipment?

YES 1
 NO 2 (END MODULE)
 DK 8 (END MODULE)

b. On average, how often did you run one of these?

NEVER 00000
 DID, DK HOW OFTEN 99996 (GO TO GA-17c)
 DK 99998 @

1. per DAY 1
 # TIMES WEEK 2 (GO TO 5)
 MONTH 3
 YEAR 4 **A**

2. HOURS 1 DAY 1
 DAYS 2 per WEEK 2
 WEEKS 3 MONTH 3
 MONTHS 4 YEAR 4

BOX GA-41

IF NUMERATOR IN 2 = 1 (HOURS), THEN GO TO BOX GA-43.
 IF NUMERATOR IN 2 = 2-4 (DAYS, WEEKS, MONTHS), GO TO 5.

3. (GO TO GA-17c)
 PERCENT

4. / (GO TO GA-17c)
 FRACTION

5. Each time you did this, how long, on average, did it take?

_____ MINUTES 1
HOURS 2
DK 8

BOX GA-42

IF DENOMINATOR IN 1 = 1-3 (DAY, WEEK, MONTH), GO TO 6.

IF DENOMINATOR IN 1 = 4 (YEAR), GO TO GA-17c.

BOX GA-43

IF DENOMINATOR IN 2 = 4 (YEAR), GO TO GA-17c.

6. Did you do this year round?

YES 1 (GO TO GA-17c)
NO 2
DK 8 (GO TO GA-17c)

7. How many (DAYS/WEEKS/MONTHS) a year did you do this?

DAYS/WEEKS/MONTHS |__|__|__|
DK 998

c. How often did you personally fill the equipment's fuel tank with gasoline?

NEVER 00000
DID, DK HOW OFTEN 99996 (END MODULE)
DK 99998 @

1. _____ # TIMES per DAY 1
WEEK 2
MONTH 3
YEAR 4

BOX GA-44

IF 1 = YEAR, THEN GO TO NEXT MODULE.

2. Did you do this year round?

YES 1 (END MODULE)
NO 2
DK 8 (END MODULE)

3. How many (DAYS/WEEKS/MONTHS) a year did you do this?

DAYS/WEEKS/MONTHS |__|__|__|

DK 998